N. JOHNSON.
WATER WHEEL.

No. 759. Patented May 30, 1838.

Fig. 4.

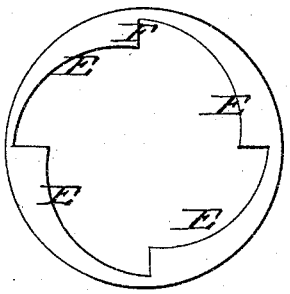


Fig. 2.

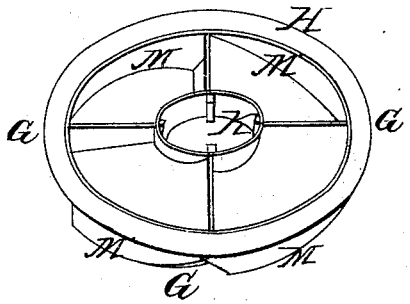


Fig. 3.

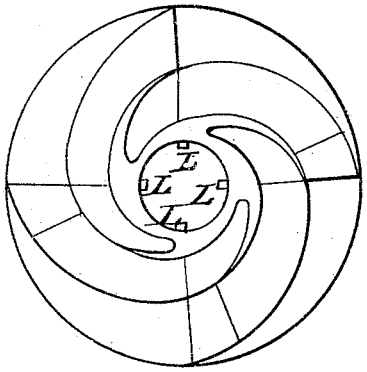


Fig. 5.

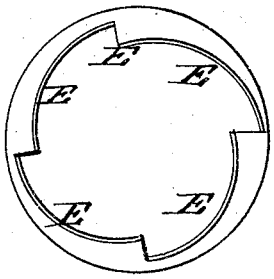
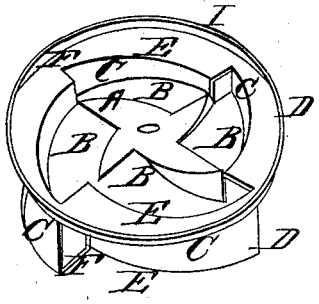


Fig. 1.



UNITED STATES PATENT OFFICE.

NELSON JOHNSON, OF ERWIN CENTER, NEW YORK.

REACTING WATER-WHEELS.

Specification of Letters Patent No. 759, dated May 30, 1838.

To all whom it may concern:

Be it known that I, NELSON JOHNSON, of Erwin Center, county of Steuben, State of New York, have invented a new and useful Improvement in Reacting Water-Wheels, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

The nature of my improvement consists in casting or forming the bottom A, Figure 1, of the wheel in the form of inclined curved buckets B each the segment of a circle and all of them to be acted upon by the water as it escapes, causing the wheel to turn in a contrary direction from that in which the water issues. The bottom is cast of a uniform thickness, say about half an inch, in order to lighten it. Fig. 3 represents the under side of the bottom. The lower edges of the vertical side buckets C, Fig. 1, are made to conform in shape to the figure of the surface of the bottom buckets at the outer edges thereof. The upper and lower rims D are escalloped as at E, Figs. 4 and 5, to allow the water to act upon and escape from the buckets freely. The ends F of these scallops or throats at the outer termination of the buckets are cast at right angles to a tangent line to the curve of each.

On the upper surface of the upper rim is a circular vertical flange I, Fig. 1, around which the deck is placed to prevent leakage as the stepping of the wheel wears down.

This wheel is designed to run horizontally on a vertical shaft, but may turn vertically on a horizontal shaft on which any convenient number may be placed in pairs or otherwise.

An eye K is left in the center of the wheel for the shaft, cast with projections L.

The wheel may likewise be cast with side buckets M escalloped in an obtuse angle as at G for the easy discharge of the water from the bottom and side buckets at the same time. Also with a flange H or rim running flat upon or against the deck to prevent the escape of the water at the sides. See Fig. 2 in which G are the scallops and H the flange.

When the bottom of the wheel is made of wood it need not be hollow, it may be made even and smooth.

What I claim as my invention and which I desire to secure by Letters Patent consists—

In the particular manner in which the buckets are constructed, that is to say, their descending in a curve from the top to the bottom of the wheel, and having their peripheries, or the outer rim of the wheel cut away, as represented in the drawing, to allow of the free escape of the water laterally.

NELSON JOHNSON.

Witnesses:

WM. P. ELLIOT,

EDMUND MAHER.